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THE SIZE DISTRIBUTION OF FARM OPERATORS' INCOME IN 1946

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CONTENTS

THE SIZE DISTRIBUTION OF FARM OPERATORS' INCOME IN 1946 1/

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SUMMARY

One purpose of a Nation-wide field survey, conducted by the Bureau of Agricultural Economics in January 1947, was to determine the size distribution of farm operators' income. This publication reports the results of that phase of the study. The objectives of this project were to improve the measurement of farm operators' income and to develop reliable methods of measuring their size distribution by (a) appraisal of existing raw data on incomes of farm operator families, (b) exploration of problems encountered in the development of income size distributions, (c) planning and standardization of methods appropriate thereto, and (d) construction of actual income distributions for farm operator families in 1946.

This project was carried out by the Bureau of Agricultural Economics and the Agricultural Experiment Stations of Illinois and California.

The principal findings from the study are:

(1) For the first time, detailed information has been obtained showing the sources and amounts of off-farm income to farm operator families. In 1946, this income totaled about $5.5 billion. Participation in and amounts of off-farm income were greatest at the very low levels of farm income.

(2) Net farm income reported in enumerative surveys is generally substantially understated because of biases in reporting. In the January 1947 Enumerative Survey, which provided the basis for constructing income size distributions for 1946, gross cash receipts from farming were about 28 percent less than the BAE official estimate and production expenses were 9 percent less. Although some margin of error is involved in the BAE aggregate estimates, it is believed that they approximate the actual levels. Data obtained in these surveys were adjusted for estimated understatements and income size distributions were adjusted to reflect approximately the correct aggregate income and expense.

(3) Adjustment for the "missing" or unreported cash farm income was made by use of data from outside the survey which showed the relationship between average gross cash income and average production expenses at varying levels of gross cash income. These data were developed from the 1940 and 1945 Censuses of Agriculture and from a special analysis of farm record accounts for Illinois farm operators.

(4) Adjusted distributions for the year 1946 for the United States were developed on the following bases:

1/ An elaboration of some of the more technical phases of this report will appear in a forthcoming volume of the Studies in Income and Wealth of the National Bureau of Economic Research. This report contains all of the basic data and conclusions and, in addition, contains new material in Appendix B on the off-farm income of farm operator families not included in that volume. The entire study was conducted with funds made available under the Research and Marketing Act of 1946.

(a) Gross cash farm income (Total money receipts from farming) - page 12.

(b) Net cash farm income (Money receipts from farming minus money production expenses) - page 13.

(c) Net cash total income (Net cash farm income plus off-farm money income) - page 16.

(d) Total income (Net cash total income plus nonmoney income from the farm in the form of food, fuel, and housing) - page 20.

(5) The effect of inventory changes on the distribution of income was indicated in a special analysis of the Illinois data. Although the value of inventory changes is usually a small percentage of aggregate income, it can cause substantial changes in distribution, particularly at the lower and upper income levels.

(6) Considerable attention was given to methodology in the research in California but further work needs to be done on the means of obtaining adequate data on income by survey techniques. Such studies should test the comparative accuracy and efficiency of (a) annual data obtained in a single interview versus annual data built up from monthly or quarterly interviews, (b) full income and expense details versus global questions concerning income and expense, and (c) the possibility of increasing the accuracy of the reporting by requiring that all items of income, expense, and savings be covered and balanced in the field offices. The latter would require careful editing in the field, longer interviews, and better trained enumerators than are customarily used in such surveys.

INTRODUCTION

Since 1924 the Bureau of Agricultural Economics has estimated each year the aggregate income from farming and farm production expenses. However, little has been known as to the distribution of that income, especially for recent years, when farm income has risen to levels never previously attained. A Nation-wide field survey conducted by the Bureau of Agricultural Economics in January 1947 provided a basis for estimating the distribution of farm income in 1946. That survey covered, among other subjects, gross farm income, production expenses, and income received from off-farm sources by farm operator families.

The BAE Enumerative Survey, like other income surveys in the past, was subject to the limitations characteristic of the reporting of income data by individuals. Receipts may be generally understated, partly because of failure to remember the many transactions involved in the farm enterprise during the year and partly because of reluctance to disclose income data. These biases operate with greater force on the reporting of farm operators' income and of incomes of independent business men than on that of most other occupational groups. Wage earners, generally, have fixed rates of earnings, easy to remember and report, and also relatively easy to check upon. In the Census-BAE survey of income in 1946, more than 90 percent of urban wages and salaries were reported, but apparently a much smaller proportion of farm income was reported. These circumstances, which resulted in a marked understatement of farm operators' income in comparison with both actual farm income and reported income of certain

other groups, make it advisable that an attempt be made to show what the size distribution of farm operators' income might be if the incomes were fully reported. These adjustments were facilitated by the reporting in the survey of 72 percent of the gross cash farm income and 91 percent of the production expenses estimated by the Bureau of Agricultural Economics for 1946. Nevertheless, because of limitations of the data available for accomplishing the adjustments, the results should not be presumed to measure the income distributions precisely.

NEED FOR INCOME SIZE DISTRIBUTION

As previously noted, adequate data as to distribution of farm income at the high postwar levels have not been available. In fact, the only comprehensive study of the income distribution of farm families came out of the Study of Consumer Purchases in the middle thirties. Although this study was subject to some limitations (particularly the treatment of relief families, which made up a significant proportion of total families in 1935-36), it attempted to make adjustments for underreporting of income. This was not done in succeeding studies. 2/

Aside from the importance of income size distribution in business cycle analysis and appraisal of tax policy, two uses are of direct interest to agriculture. First, size distributions of income are important in analyzing the demand for food and other farm products. Although changes in the aggregate level of consumer incomes go part of the way toward explaining variations in prices of (and income from) farm products, information as to shifts in distribution of income is a valuable adjunct. Increments of income at different levels of the size distribution are reflected in varying demands for the several farm products. The farm family is an important source of demand for agricultural products and must be represented in the distributions used for analyses of demand.

Second, adequate distributions for the farm and nonfarm population groups would make possible a more precise measurement of their relative well-being. The Agricultural Act of 1949 provides impetus in this direction by defining parity income as that "which will provide the farm operator and his family with a standard of living equivalent to those afforded persons dependent upon other gainful occupation." As standards of living vary according to income levels, comparisons of the distribution of income, both farm and nonfarm, are fruitful in this direction. 3/

2/ Income size distributions of farm families on a national basis are also available for 1941 - Bureau of Human Nutrition and Home Economics: Rural Family Spending and Saving in Wartime - U. S. Department of Agriculture Misc. Pub. 520, 163 pp. 1943; for 1944, 1945, 1947 and 1948 (Bureau of the Census); and for 1945-48 for farm operators (Federal Reserve Board Survey of Consumer Finances). In general, these surveys underreported farm income and in some instances did not accurately reflect the number of farm operators. Consequently, they are subject to the same kind of limitations ascribed to the "raw data" from the B.E Enumerative Survey.

3/ The levels of living for both groups, standard budgets and the means for pricing them, and saving points should also be considered.

CONCEPTS OF INCOME FOR FARM FAMILIES

These uses of farm income distributions indicate the appropriate concepts of income. For most purposes of demand analyses, the money income concept has considerable merit. The objective of the recent surveys conducted by the Bureau of the Census and the Federal Reserve Board was to obtain the size distribution of the money income of farm families after deduction of farm production expenses. The Enumerative Survey also was limited to determining the money income, although the data on farm income and production expense were obtained in greater detail. Information concerning the value of inventory change and nonmoney income in the form of farm products used in the household and occupancy value of the dwelling was not obtained, primarily because of the time and cost involved. However, materials from other sources were used to indicate the distribution of total income, including nonmoney, to provide a comparison with the money income distribution developed from the Enumerative Survey.

The exclusion of the value of inventory change represents a departure from the general rule of eliminating only the purchase and sale of capital assets from the income computation. The case for including the inventory change in the income computation is not clear cut. For some purposes, such as ascertaining the aggregate purchasing power of farmers, it may be desirable to disregard inventories. Current prices for some agricultural commodities may have little relation to the values that might be realized if the total inventory were sold in a short period. However, in the case of individual farmers who fall in the lower income groups because of planned increases in farm inventories, exclusion of inventory valuation from the income computation would seriously undervalue the purchasing power of these farmers.

In comparing the distribution of incomes of farm operator families with those of nonfarm groups, it is clear that all sources of income should be included. Thus, the value of farm-furnished food and other products and the occupancy value of the farm dwelling should be added to the net cash income and value of inventory change. This comprehensive definition of income was used in the Study of Consumer Purchases, 1935-36 made by the Bureau of Human Nutrition and Home Economics and in Family Spending and Saving in Wartime, 1941. 4/

Evaluation of nonmoney income is largely a price problem. In the case of farm products used in the farm household, two extremes in pricing can be assumed: (1) the level at which similar products are sold by the farmer (the method used in computing farm income by the BAE) and (2) the retail price to farm families (used in Family Spending and Saving in Wartime).

No satisfactory method of ascertaining the rental value of the farm dwelling is quite comparable to that of the rented city dwelling. The farm dwelling is part of the farm enterprise and no appropriate method has been devised for determining its precise contribution to the income of the farm family.

In earlier studies in which such allowances have been made, the rental value was determined as a percentage of the value of the dwelling. This percentage was presumed to represent the return on investment,

4/ See footnote 2, page 5.

interest, taxes, insurance, and depreciation. The Bureau of Agricultural Economics uses a similar procedure in determining the contribution of housing to aggregate gross farm income. There is no adequate basis for going beyond this sort of allowance.

THE INCOME UNIT

In the earlier studies, and more recently in the Federal Reserve Board Surveys, the income unit has been defined as a spending unit, or a group of individuals who pool the major part of their incomes. The Bureau of the Census, however, has defined the income unit as all persons living together who are related by blood, marriage, or adoption. Similarly, the income unit used in this report represents the farm operator and all members of his family. Nevertheless, it is not exactly equivalent to that of the Bureau of the Census, inasmuch as only one farm operator per farm is assumed. Consequently, no allowance is made for partnerships or operation of more than one farm by a single operator. 5/ To make the distributions shown hereafter equivalent to a family basis, some allowance for these factors should be made. However, as the percentage of farms affected is small, this adjustment should not have an important effect on the distributions.

THE BAE SAMPLE AND ITS EXPANSION

The data that provide the bases for the distributions which follow were collected from farm operator families in the January 1947 Enumerative Survey of Agriculture. It is not proposed fully to describe and appraise the sampling procedure. 6/ In brief, the sample represented 4,021 sements in 816 counties located in every State of the Union. Sampling rates were varied in order to get information on certain items in four major geographic divisions.

Schedules were obtained from 14,468 farms in a total of 17,704 in the sample areas. Of these 14,468 schedules, 635 were obtained in the "clean-up" phase of the survey. In this phase, a subsample of one-third of the segments was used, and interviewers were asked to visit the farms in those segments from which records had not been obtained. Of the 4,021 segments, 73 were never visited, chiefly because of lack of time and inaccessibility of the farms. Because of shortcomings in the sample, 685 schedules duplicating those obtained from farms in areas where the non-interview rate was high were included, making a total of 15,153. 7/

5/ Data from the Census of Agriculture are obtained and tabulated on the basis of one farm operator for each farm.
6/ For details, see Houseman, Earl E. The Sample Design for a National Farm Survey by the Bureau of Agricultural Economics, Jour. Farm Econ., 29:241-245. 1947.
7/ For an evaluation of the sample see Senf, Catherine. A Report on the General Enumerative Surveys-II. U. S. Bur. Agr. Econ. Agr. Econ. Research, 1:105-128. 1949.

Each schedule contained a section on cash receipts from farming. Additional information relating to production expenditures and nonfarm income was obtained from a subsample, which in most areas was 25 percent. 8/ The schedules containing these additional sections were known as "long" schedules. The total number of these, including duplicates, was 4,465.

In some cases, information on income and expenditures was not complete. Schedules (including duplicates) in which all income items were noted to be complete totaled 14,079. Those with complete information on both income and expense totaled 3,692. Approximately 7 percent of the schedules reporting income and about 17 percent of those reporting income and expenditures could not be used because they were incomplete.

Inasmuch as adequate information was unavailable to indicate the approximate level of income of those farms from which complete interviews were not obtained, no adjustment on this account was feasible and it was assumed that farms reporting income fully were representative of all farms in the original sample.

The survey sample indicated 5,366 thousand farms in 1946 compared with 5,859 thousand reported in the Census of Agriculture for 1945. A comparison by size of farm showed that the reduction in numbers was largely in the smaller sized farms, which are difficult to identify. There is no conclusive information that the number of farms in early 1947 differed significantly from that in early 1945. 9/ Consequently, the number of farms as reported in the Census of Agriculture was taken as a base. In all regions except the West, a further break-down was made by three size of farm groups--under 10 acres, 10 to 49 acres, and 50 acres and over. In the case of tenure, considerable change had evidently occurred since the preceding census. Increases in the rate of ownership probably accompanied the 20-percent increase in farm income from 1944 to 1946. Tenure rates, therefore, were obtained from the survey.

SIZE DISTRIBUTION OF GROSS CASH FARM INCOME

Size distributions of gross farm income obtained in the survey are quite similar to those from the 1945 Census of Agriculture, as may be seen in table 1. Differences in the definition of income between the census and the survey are offsetting to some degree. The census distribution is based on the total value of sales, including those of the landlord whose rent was a share of the crop. If the landlords' sales are not included, distribution is shifted more toward the lower income levels. On the other hand, the census does not include Government payments to farm operators and income from custom work. In addition, an upward shift in distribution occurred as a result of the 20-percent increase in

8/ The long schedule was used on all sample farms in Illinois and 50 percent of the sample farms in New York, Pennsylvania, and the Western region in order to provide for special studies in these areas.
9/ The number of family workers on farms, without cash wages, in 1946 averaged about the same as in 1944. The population living on farms in January 1947 was 9 percent larger than in January 1945.

aggregate cash farm income from 1944 to 1946. In comparison with official estimates of the Bureau of Agricultural Economics, the Census of Agriculture underreported gross cash farm income to approximately the same extent as did the Enumerative Survey. The BAE estimates are based in part upon data from the Census of Agriculture, but they are based also on other sources, such as market receipts and the Bureau's estimates of crop production and livestock numbers. Although some margin of error is involved in the BAE aggregate estimates, it is believed that those estimates approximate the actual level of receipts by farmers.

Table 1.- Percentage distribution of farms by gross cash farm income classes, United States

Gross cash farm income	Percentage distribution of farms		
	Enumerative Survey, 1946		Census of Agriculture, 1944 3/
	Schedules complete in gross income 1/	Schedules complete in gross income and production expenses 2/	
	Percent	Percent	Percent
0	7.4	5.8	9.0
$1 - $249	15.5	15.3	14.4
250 - 499	9.8	10.2	9.5
500 - 749	7.7	7.6	7.7
750 - 999	6.0	6.3	6.6
1,000 - 1,499	9.1	10.0	10.3
1,500 - 1,999	6.7	6.9	7.4
2,000 - 2,499	5.2	5.1	5.7
2,500 - 2,999	4.5	3.9	4.4
3,000 - 3,999	6.2	6.1	6.7
4,000 - 4,999	5.0	5.1	4.5
5,000 - 5,999	3.6	4.0	3.2
6,000 - 7,499	4.1	4.3	2.9
7,500 - 9,999	3.4	3.4	3.1
10,000 - 19,999	4.2	4.1	3.2
20,000 and over	1.6	1.9	1.4
Total	100.0	100.0	100.0

1/ 14,079 schedules.
2/ 3,692 "long" schedules.
3/ Not exactly comparable with Enumerative Survey data. Includes landlord's share of sales and does not include Government payments or income from custom work.

The size distribution based on all schedules with no "incompletes" in the income section 10/ appeared to be more trustworthy as a base for adjustment than that based only on those reporting both income and expenses. It was based on more than 14,000 schedules as compared with a fourth of that number in the corresponding distribution for farms reporting both income and expenses. The rate of "incompleteness" was smaller and its effect negligible. The fairly close correspondence with the distribution from the 1945 Census of Agriculture indicated that the sampling procedure adopted for these schedules was adequate. The number of farms in each gross income interval in this distribution was multiplied by the average income and expense for each level obtained in the "long" schedule (no incompletes) to arrive at aggregate income and expense. The average income in each income interval in the smaller sample corresponded closely with the averages in the larger sample, even in the open-end interval ($20,000 and over).

Table 2.- Distribution of farms, income and production expenses, unadjusted, from the Enumerative Survey of Agriculture, 1946 by gross cash farm income classes

Gross cash farm income	Number of farms 1/	Average 2/			Aggregate		
		Gross cash farm income	Pro-duction expenses	Net cash farm income	Gross cash farm income	Pro-duction expenses	Net cash farm income
	Thou-sands	Dollars	Dollars	Dollars	Million dollars	Million dollars	Million dollars
0	433.0	0	384	-384	0	166	-166
$1 - $249	911.5	111	447	-336	101	407	-306
250 - 499	574.9	374	556	-182	215	320	-105
500 - 749	449.4	621	564	57	279	253	26
750 - 999	351.6	867	634	233	305	223	82
1,000 - 1,499	534.8	1,221	899	322	653	481	172
1,500 - 1,999	393.4	1,719	1,222	497	676	481	195
2,000 - 2,499	306.4	2,221	1,482	739	681	454	227
2,500 - 2,999	261.1	2,741	1,681	1,060	716	439	277
3,000 - 3,999	365.0	3,483	2,262	1,221	1,271	826	445
4,000 - 4,999	291.9	4,461	2,967	1,494	1,302	866	436
5,000 - 5,999	210.0	5,469	3,331	2,138	1,149	699	450
6,000 - 7,499	238.6	6,663	3,867	2,796	1,590	923	667
7,500 - 9,999	199.1	8,493	4,911	3,582	1,691	978	713
10,000 - 19,999	245.4	13,171	8,670	4,501	3,232	2,128	1,104
20,000 and over	93.0	42,478	29,813	12,665	3,950	2,772	1,178
Total or average	5,859.1	3,040	2,119	921	17,811	12,416	5,395

1/ Based on all schedules with no "incompletes" in the farm income section (14,079 schedules).

2/ Based on schedules reporting gross cash farm income and production expenses, with no "incompletes" in the farm income and farm expense sections (3,692 schedules).

10/ Little difference is caused in the distributions by eliminating the schedules with incomplete reporting.

The size distribution of farms according to gross income classes and the aggregate gross cash farm income, production expenses, and net cash farm income computed on the above basis are shown in table 2. This tabulation was used as the base for the adjustments described below.

GROSS FARM INCOME AND PRODUCTION EXPENSES

As previously noted, the survey accounted for 72 percent of the gross cash farm income and 91 percent of the production expenses reported for 1946 by the Bureau of Agricultural Economics. Production expenses appear to provide a sounder base for beginning the adjustments of the survey results to the BAE aggregates than the gross cash farm incomes.

The relationship between gross cash farm income and production expenses provides a guide for these adjustments. Figure 1 shows the relation between average production expenses and average gross cash receipts by value of sales groups in the unadjusted survey data and in data from several other sources. With the exception of the survey data this relation for the United States as a whole appears to be fairly well represented by a straight line. Moreover, an analysis of 2,948 records of farm operators in Illinois for 1946 indicates that the relationship which described gross cash farm income and production expenses in 1946 was much closer to a straight line than were comparable data from the enumerative survey.

Although it is generally assumed that production expenses increase more rapidly than gross farm income when ascending the income scale, evidence on this score does not appear to be significant. On the basis of data from the Enumerative Survey, the relationship might be assumed to curve upward, mainly because of the sharp increases in expenses in relation to income in the higher income groups ($20,000 and over), but this could result from a progressively greater understatement of income in relation to expenses. It appears likely that the biases involved in income surveys operate with greater force in incomes above $10,000 than in those below that level. Some reservations still apply to the extreme ends of the distribution, it is true. In the lower income levels, a flattening tendency is observed. At the other extreme, increasing unit costs might operate but they might not show up clearly because of the large open-end income class used. However, evidence is not sufficient to describe the over-all relation between income and expense as other than linear. Even if a slight curvature should be more accurate, the distribution would not be significantly affected. Therefore, the goal was to adjust gross cash farm receipts, production expenses, and net cash farm income to the totals estimated by the Bureau of Agricultural Economics while obtaining a relation between average gross cash farm receipts and average production expenses which would be a straight line. A cross tabulation of the number of farms by gross cash receipts and net cash farm income was used in carrying out this procedure. Average production expenses were raised throughout the distribution by 9 percent; then farms were shifted up along the income scale in accordance with the straight line passing through the point of correct average expense and gross cash income and the point of average expense at zero gross cash income obtained from the survey. 11/

11/ For further details, see The Size Distribution of Farm Operators' Income in 1946 in a forthcoming volume of Studies in Income and Wealth of the National Bureau of Economic Research.

In the survey, 433,000 farms reported zero farm cash receipts and no adjustment was made for farms falling in this group. The 1945 Census of Agriculture reported 532,000 farms with zero sales in 1944 and the survey figure for 1946 seemed fairly well in line with the census report. The survey farms with zero cash receipts reported average production expenses of $384, which appears to be reasonable. In their study of differentials in productivity, Ducoff and Hagood indicated an average expense of about $150 at the low-income level in 1939. 12/ Between 1939 and 1946, prices of many production items more than doubled.

Table 3.- Percentage distribution of farms and gross cash farm income, adjusted and unadjusted, by gross cash farm income classes, 1946

Gross cash farm income	Enumerative Survey							
	Adjusted				Unadjusted			
	Percentage distribution		Cumulative percentage distribution		Percentage distribution		Cumulative percentage distribution	
	Number of farms	Gross cash farm income	Number of farms	Gross cash farm income	Number of farms	Gross cash farm income	Number of farms	Gross cash farm income
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
0	7.4	0.0	7.4	0.0	7.4	0.0	7.4	0.0
$1 - $249	10.5	.3	17.9	.3	15.5	.6	22.9	.6
250 - 499	11.4	1.0	29.3	1.3	9.8	1.2	32.7	1.8
500 - 749	9.7	1.4	39.0	2.7	7.7	1.6	40.4	3.4
750 - 999	5.2	1.1	44.2	3.8	6.0	1.7	46.4	5.1
1,000 - 1,499	8.1	2.3	52.3	6.1	9.1	3.7	55.5	8.8
1,500 - 1,999	6.2	2.6	58.5	8.7	6.7	3.8	62.2	12.6
2,000 - 2,499	4.9	2.6	63.4	11.3	5.2	3.8	67.4	16.4
2,500 - 2,999	5.1	3.3	68.5	14.6	4.5	4.0	71.9	20.4
3,000 - 3,999	5.0	4.1	73.5	18.7	6.2	7.1	78.1	27.5
4,000 - 4,999	3.7	3.9	77.2	22.6	5.0	7.3	83.1	34.8
5,000 - 5,999	3.3	4.3	80.5	26.9	3.6	6.5	86.7	41.3
6,000 - 7,499	6.3	10.0	86.8	36.9	4.1	8.9	90.8	50.2
7,500 - 9,999	5.0	10.1	91.8	47.0	3.4	9.5	94.2	59.7
10,000 - 19,999	4.7	15.1	96.5	62.1	4.2	18.1	98.4	77.8
20,000 and over	3.5	37.9	100.0	100.0	1.6	22.2	100.0	100.0
	100.0	100.0			100.0	100.0		

12/ Ducoff, Louis J., and Hagood, Margaret Jarman. Differentials in Productivity and in Farm Income of Agricultural Workers by Size of Enterprise and by Regions. 54 pp. Bur. Agr. Econ. 1944.

The use of a cross tabulation of gross and net cash farm income in the above adjustment yielded the new net cash farm income distribution directly. The adjusted and unadjusted distributions of gross and net cash farm income are shown in tables 3 and 4 respectively. The distributions are shown graphically in figures 2 and 3. It can be seen that, even after the adjustment, about 30 percent of the farms, or 1,753,000, were still in the negative net income class. Apparently there is some basis for this large percentage. It has been noted that at zero gross cash income, average expenses amounted to almost $400. Moreover, approximately two-thirds of the farms reporting losses had gross cash incomes of less than $500. It should be emphasized that for the most part these farms are not commercial operations. Some are primarily country residences. Others, supplemented by income from nonfarm sources, provide living from the farm in noncash items, such as food raised for home consumption. This large negative group should be appraised in the light of the Census of Agriculture definition of a farm, necessarily that used in the survey.

Table 4.- Percentage distribution of farms and net cash farm income, adjusted and unadjusted, by net cash farm income classes, 1946

Net cash farm income	Enumerative Survey							
	Adjusted				Unadjusted			
	Percentage distribution		Cumulative percentage distribution		Percentage distribution		Cumulative percentage distribution	
	Number of farms	Net cash farm income	Number of farms	Net cash farm income	Number of farms	Net cash farm income	Number of farms	Net cash farm income
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Negative	29.9	- 11.9	29.9	- 11.9	33.3	- 27.1	33.3	- 27.1
0	1.0	.0	30.9	- 11.9	.9	.0	34.2	- 27.1
$1 - $249	11.7	.7	42.6	- 11.2	12.0	1.5	46.2	- 25.6
250 - 499	8.7	1.7	51.3	- 9.5	10.3	4.0	56.5	- 21.6
500 - 749	5.9	1.9	57.2	- 7.6	7.3	4.8	63.8	- 16.8
750 - 999	4.7	2.2	61.9	- 5.4	6.2	5.6	70.0	- 11.2
1,000 - 1,499	7.9	5.1	69.8	- 0.3	8.0	10.4	78.0	- .8
1,500 - 1,999	5.3	4.8	75.1	4.5	5.3	9.8	83.3	9.0
2,000 - 2,499	3.8	4.5	78.9	9.0	3.6	8.3	86.9	17.3
2,500 - 2,999	3.1	4.4	82.0	13.4	2.7	7.7	89.6	25.0
3,000 - 3,999	4.7	8.7	86.7	22.1	3.5	12.7	93.1	37.7
4,000 - 4,999	3.6	8.5	90.3	30.6	2.4	11.2	95.5	48.9
5,000 - 5,999	2.4	7.1	92.7	37.7	1.2	7.2	96.7	56.1
6,000 - 7,499	1.9	6.7	94.6	44.4	1.0	7.0	97.7	63.1
7,500 - 9,999	1.4	6.3	96.0	50.7	1.0	8.6	98.7	71.7
10,000 - 19,999	2.5	18.3	98.5	69.0	.9	12.9	99.6	84.6
20,000 and over	1.5	31.0	100.0	100.0	.4	15.4	100.0	100.0
Total	100.0	100.0			100.0	100.0		

In developing income distributions for California, the incomes of individual farms were adjusted to account for the "missing" income from crops and from livestock items separately. This type of adjustment also yielded only a relatively small reduction in number of farms with negative incomes. With reference to the larger farms for which negative incomes were reported, it is emphasized that the net cash farm income does not include the value of changes in inventory. If the inventory changes had been included, it is likely that many of the farms with negative incomes would have been in positive classes.

ADJUSTMENT OF NET CASH TOTAL INCOME

The Bureau of Agricultural Economics has estimated that the non-farm income received by persons on farms amounted to $4.3 billion in 1946. Of this total, farm operator families were estimated to have received about $4.0 billion. The principal bases for these estimates were the data as to number of days worked off the farm at nonfarm jobs, as reported by farm operators in the Census of Agriculture, and various surveys covering the years 1934-36 as to the amount and sources of non-farm income of farm families.

Data from the Enumerative Survey indicate that the off-farm income (income from sources other than the farm operated) of farm operator families totaled about $5.5 billion. Most of the difference between these estimates can be accounted for by the fact that the BAE estimate of nonfarm income does not include income received from work on other farms, rental income from other farms, and income received from armed service pay, veterans' payments, family dependency allotments and social security payments. Prior to this report no data were available as to the amount of income received by farm operator families from these sources. The first two items represent income from agriculture, although not from the farm itself. Based on the Enumerative Survey, if income from these sources were included, the BAE estimate would be approximately the same as the survey aggregate.

In adjusting the distribution of net cash total income (net cash farm income plus off-farm income), it was considered advisable to use the survey data on off-farm income without further adjustment. For major components, there is substantial agreement between survey results and BAE estimates of nonfarm income. The lower level of the latter is due primarily to a more limited coverage of sources. In addition, the survey yields the only information available as to distribution of this income in recent years.

The importance of off-farm income in relation to net cash farm income is illustrated in table 5. It may be seen that at all levels of net farm income, off-farm income represents a substantial addition. It should be noted that the average off-farm income in the negative net cash farm income class was one of the largest throughout the range. This is in line with the observation that these farm families are predominately rural residents with nonfarm occupations. Under the assumption that the percentage distribution of net cash total income for fixed levels of net cash farm income was correct, a new distribution of net cash total income was readily obtained to match the adjusted net cash farm income distribution. The adjusted and unadjusted distributions are shown in table 6 and figure 4.

Table 5.- Average net cash farm income and average net off-farm income
by net cash farm income classes, unadjusted, 1946

Net cash farm income class	Average net cash farm income	Average net off-farm income
	Dollars	Dollars
Negative	-775	1,711
0	0	2,042
$1 - $499	236	658
500 - 999	729	511
1,000 - 1,499	1,243	535
1,500 - 1,999	1,762	391
2,000 - 2,499	2,221	414
2,500 - 2,999	2,754	331
3,000 - 3,999	3,471	647
4,000 - 4,999	4,453	455
5,000 - 5,999	5,519	453
6,000 - 7,499	6,691	584
7,500 - 9,999	8,457	1,074
10,000 and over	1/ 20,706	1,381
Total	954	946

1/ After adjustment of the net farm income the average was $1,885. In
the adjustment, many farm families falling in the original classes of
net cash farm income were moved to new classes, carrying with them their
off-farm income. Thus, on an adjusted basis, the average net off-farm
income shown would not be consistent with the average net cash farm in-
come shown above.

The adjustment of the net cash total income is the final one that
can be made from the data obtained in the Enumerative Survey. Major com-
ponents lacking are (1) value of changes in farm inventories and (2) non-
money income from the farm in the form of food, fuel, and housing
furnished as part of the operation of the farm. Some information is
available from a study of Illinois farm records to indicate the effect
of changes in the value of inventories on distribution of net farm income
in the State. However, the experience in Illinois is probably not
representative of the Nation as a whole. For the present, the lack of in-
ventory data represents a gap in construction of adjusted income distri-
butions for farm operators.

Materials from the 1941 study of Rural Family Spending and Saving
provide a clue as to how the inclusion of nonmoney income from the farm
affects the distribution of income.

Table 6.- Percentage distribution of farms and net cash total income
adjusted and unadjusted, by net cash total income classes, 1946

Net cash total income	Enumerative Survey							
	Adjusted				Unadjusted			
	Percentage distribution		Cumulative percentage distribution		Percentage distribution		Cumulative percentage distribution	
	Number of farms	Net cash total income	Number of farms	Net cash total income	Number of farms	Net cash total income	Number of farms	Net cash total income
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Negative	9.1	- 3.2	9.1	- 3.2	9.6	- 6.1	9.6	- 6.1
0	.1	.0	9.2	- 3.2	.1	.0	9.7	- 6.1
$1 - $249	6.0	.3	15.2	- 2.9	6.5	.5	16.2	- 5.6
250 - 499	8.5	1.2	23.7	- 1.7	9.7	1.9	25.9	- 3.7
500 - 749	8.5	1.9	32.2	.2	9.8	3.2	35.7	- .5
750 - 999	7.6	2.3	39.8	2.5	9.5	4.3	45.2	3.8
1,000 - 1,499	11.0	4.8	50.8	7.3	11.4	7.4	56.6	11.2
1,500 - 1,999	9.4	5.8	60.2	13.1	9.9	9.1	66.5	20.3
2,000 - 2,499	7.1	5.6	67.3	18.7	7.5	8.9	74.0	29.2
2,500 - 2,999	6.7	6.4	74.0	25.1	6.9	9.9	80.9	39.1
3,000 - 3,999	7.1	8.7	81.1	33.8	6.5	11.7	87.4	50.8
4,000 - 4,999	6.0	9.5	87.1	43.3	5.1	12.0	92.5	62.8
5,000 - 5,999	3.2	6.3	90.3	49.6	2.3	6.5	94.8	69.3
6,000 - 7,499	2.9	6.8	93.2	56.4	2.0	7.2	96.8	76.5
7,500 - 9,999	2.5	7.7	95.7	64.1	1.6	7.2	98.4	83.7
10,000 - 19,999	2.8	13.9	98.5	78.0	1.2	8.9	99.6	92.6
20,000 and over	1.5	22.0	100.0	100.0	.4	7.4	100.0	100.0
Total	100.0	100.0			100.0	100.0		

EFFECT OF INCLUDING VALUE OF FARM INVENTORY CHANGES ON DISTRIBUTION OF NET FARM INCOME, ILLINOIS

In computing net income from agriculture to compare with income
from other sources, the Bureau of Agricultural Economics makes adjustment
for the change in inventories of farm products held for sale or for home
consumption during the year. Year-end prices are applied to physical
changes. In 1946, the value of the change in inventories was $-126 mil-
lion. 13/ If total inventories are considered, including the changes in
value of farm products not held for sale, such as feed crops, the estimated
inventory adjustment would have been $-271 million. Although even the
larger of these figures represents only about 2 percent of the net cash
farm income, it is likely to have affected significantly the distribution
of income. Although a relatively small net reduction in inventories is
indicated for the United States as a whole, net increases occurred in the
Northeast and South and net decreases in the North and West. Even in the
latter regions, the inventories on many farms undoubtedly increased.

13/ United States Bureau of Agricultural Economics. The Farm Income
Situation, August-September 1948, p. 15, table 2.

Some light on the effect of including the value of inventory change may be obtained from an examination of the data for Illinois. 14/ The BAE estimate for Illinois of total inventory change, including farm products held for use in farm operations, was $290 million compared with a net cash farm income of $506 million. Thus, change in the distribution due to inventory adjustment indicated for Illinois is undoubtedly much greater than is likely for the United States as a whole.

Distribution of the net inventory change by net cash farm income classes is shown in table 7 and the effect of including inventory change on the distribution of net farm income in Illinois in table 8.

Table 7.- Percentage distribution of the net value of inventory change in Illinois, by net cash farm income classes, 1946 1/

Net cash farm income		Proportion of inventory change
		Percent
Negative		34.3
0 - $249		6.0
250 - 499		11.6
500 - 749		5.0
750 - 999		4.0
1,000 - 1,499		6.8
1,500 - 1,999		5.4
2,000 - 2,499		5.1
2,500 - 2,999		3.9
3,000 - 3,999		4.2
4,000 - 4,999		4.6
5,000 - 5,999		2.8
6,000 - 7,499		3.3
7,500 - 9,999		3.6
10,000 - 19,999		1.2
20,000 and over		- 1.8
Total		100.0

1/ Based on data from 2,948 Illinois Farm Record Accounts. These farms were substantially above the average for the State and relatively few had gross cash farm incomes of less than $4,000.

Table 8 indicates a sharp upward shift in the lower income levels. Although the data for these large Illinois farms indicate that only an eighth of the farms would remain in the negative income class after inventory adjustment, this is probably an overstatement for the State as a whole, because the farms represented did not include those under 50 acres. Many of the smaller farms would undoubtedly have fallen in the negative cash farm income class and probably would not have had substantial changes in inventories.

14/ Daly, Rex F. Income Size Distributions for Illinois Farm Operator Families. Illinois Agr. Expt. Sta. Rept. Ser. 16, 60 pp., illus. March 1950. (BAE cooperating.) (Processed.)

Table 8.- Effect of inventory adjustment on distribution of
farms in Illinois, by income level, 1946 1/

Net cash farm income	Percentage of farms		Net cash farm income plus value of inventory change		Percentage of farms
	Percent				Percent
Negative	16.8		Negative		2.3
0- $249	7.2		0- $249		1.0
250- 499	6.7		250- 499		1.9
500- 749	5.3		500- 749		1.5
750- 999	4.5		750- 999		3.7
1,000- 1,499	7.7		1,000- 1,499		7.7
1,500- 1,999	7.4		1,500- 1,999		9.1
2,000- 2,499	6.4		2,000- 2,499		10.4
2,500- 2,999	5.5		2,500- 2,999		9.0
3,000- 3,999	8.7		3,000- 3,999		14.2
4,000- 4,999	7.1		4,000- 4,999		11.4
5,000- 5,999	4.5		5,000- 5,999		8.5
6,000- 7,499	4.9		6,000- 7,499		8.0
7,500- 9,999	4.1		7,500- 9,999		6.5
10,000- 19,999	2.3		10,000- 19,999		3.9
20,000 and over	.9		20,000 and over		.9
Total	100.0		Total		100.0

1/ Based largely on Farm Record Accounts for 2,948 Illinois farms.

Generalizing for the country as a whole, it is unlikely that more
than a third of the 30 percent of farms in the negative net cash farm in-
come class would have moved into positive income classes. The Special
Report on the 1945 Sample Census of Agriculture 15/ classified almost
1 million farms as "nominal" units, which for the most part represented
residential homes and retirement units with enough acreage (3 acres or
more) to meet the Census definition of a farm. More than 250,000 farm
operators included in this category were 65 years or older. Country
estates were also included in this group.

Adjusting for a net over-all decrease of $271 million in inventories
would probably reduce the representation at the higher income levels. In
total, it appears that the inclusion of an inventory adjustment would
have had an equalizing tendency on the distribution of farm income by re-
ducing the numbers both in the very low and the very high income classes.

ADJUSTMENT FOR NONMONEY INCOME FROM FARMING

The BAE estimates of nonmoney income from farming in 1946 include
$995 million gross rental value of farm homes and $2,624 million value of
home consumption of farm products. 16/

15/ United States Bureau of the Census. United States Census of Agri-
culture. Special Report of the 1945 Census of Agriculture. 159 pp.
Washington, D. C., U. S. Government Printing Office, 1947.
16/ See footnote 13, p. 16.

Gross rental value was computed by applying the interest rate on farm mortgages to the value of the dwelling and adding the other expenses for the dwelling, such as maintenance and depreciation, insurance, and taxes. In adjusting the survey expenditure data to the BAE estimate of aggregate expense (Appendix table 11), all expenses pertaining to farm dwellings ($394 million) were deducted, making the net rental value included in the nonmoney income adjustment $601 million.

The BAE valuation of farm products consumed in the home is based on prices received by farmers for those products. At the other extreme, the valuation could be made at the retail price level. This was the procedure followed in Family Spending and Saving in Wartime. In that study, it was reported that in the spring of 1942 the retail level was approximately twice that of the prices received by farmers, with little variation in this ratio by income levels. 17/ From 1942 to 1946, prices of farm products increased more than retail prices of foods. According to estimates of the Bureau of Agricultural Economics, the farmers' share of the retail cost of a family "market basket" increased from 48 percent in 1942 to 54 percent in 1946. 18/

On this basis, the ratio of the retail price level to the farm level would be reduced from 2.00 to 1.78. The value of farm food in 1946 at the retail level would total $4.7 billion. The aggregate nonmoney incomes involved in the final adjustment then, were: $3.2 billion (food valued at farm price level) or $5.3 billion (food valued at retail price level). The total income, including net cash farm income of more than $11.0 billion and nonfarm income of more than $5.5 billion, totals either $19.8 billion or $21.9 billion, according to the method of evaluating food.

The most recent source of information concerning the distribution of nonmoney income is the study of Rural Family Spending and Saving in Wartime 19/, from which the percentage distributions of nonmoney income in 1941 according to net money income classes were obtained. It should be mentioned that in this earlier study net money income included an adjustment for change in inventories, whereas this adjustment was not made in the net cash total income derived in this report. Nonmoney income from food is substantially more evenly distributed than is income from the rental value of the farm dwelling. Nonmoney income, in total, is much more evenly distributed than is total money income.

The adjusted distribution of net cash total income was further adjusted to include the nonmoney income by distributing the nonmoney income estimated by the Bureau of Agricultural Economics for 1946 according to the percentages by deciles from the 1941 study. As the nonmoney income was much more evenly distributed than the money income, inclusion of the former tended to equalize the distribution. Table 9 shows the percentage distribution of the number of farms and total income, by total income levels, according to whether farm food was valued at prices received by farmers or at retail prices to farmers. The cumulative percentages are shown in table 10. Figure 5 compares the adjusted distributions of net cash farm income, net total money income and total income (including nonmoney income).

17/Family Food Consumption in the United States, Misc. Pub. No. 550, U. S. Department of Agriculture, 1944, p. 43. 18/ United States Bureau of Agricultural Economics. The Marketing and Transportation Situation, November 1948, p. 2. 19/ See footnote 2, p. 5.

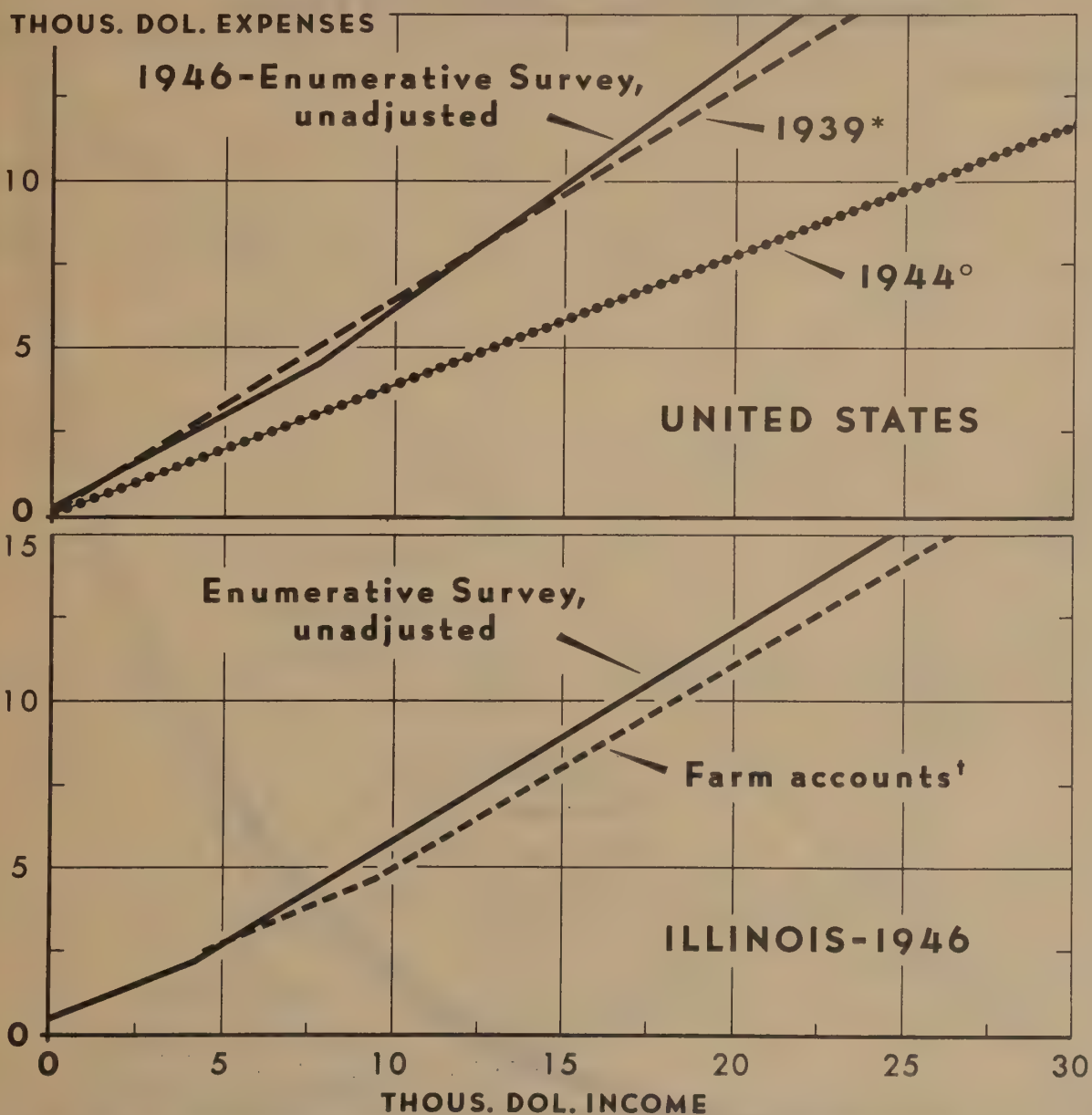Table 9.- Percentage distribution of farms and total income with specified food values, by total income level, 1946

Total income		Percentage distribution of farms and total income with farm food valued at			
		Prices received by farmers		Retail prices	
		Farms	Income	Farms	Income
		Percent	Percent	Percent	Percent
Negative		5.0	- 2.2	2.2	- 1.2
0- $249		2.9	.1	2.4	.1
250- 499		3.6	.4	2.9	.3
500- 749		4.7	.9	3.5	.6
750- 999		7.7	2.0	4.4	1.0
1,000- 1,499		14.5	5.4	13.1	4.4
1,500- 1,999		10.5	5.4	14.2	6.6
2,000- 2,499		9.2	6.1	10.3	6.2
2,500- 2,999		7.4	6.0	8.1	6.0
3,000- 3,999		11.1	11.4	12.7	11.8
4,000- 4,999		6.8	8.9	7.3	8.7
5,000- 5,999		4.9	7.9	6.1	9.0
6,000- 7,499		3.4	6.8	3.9	7.0
7,500- 9,999		3.2	8.1	3.5	8.0
10,000- 19,999		3.3	13.1	3.5	12.8
20,000 and over		1.8	19.7	1.9	18.7
Total		100.0	100.0	100.0	100.0

Table 10.- Cumulative percentage distribution of farms and total income with specified food values, by total income level, 1946

Total income		Cumulative percentage distribution of farms and total income with farm food valued at			
		Prices received by farmers		Retail prices	
		Farms	Income	Farms	Income
		Percent	Percent	Percent	Percent
Below 0		5.0	- 2.2	2.2	- 1.2
$250		7.9	- 2.1	4.6	- 1.1
500		11.5	- 1.7	7.5	- .8
750		16.2	- .8	11.0	- .2
1,000		23.9	1.2	15.4	.8
1,500		38.4	6.6	28.5	5.2
2,000		48.9	12.0	42.7	11.8
2,500		58.1	18.1	53.0	18.0
3,000		65.5	24.1	61.1	24.0
4,000		76.6	35.5	73.8	35.8
5,000		83.4	44.4	81.1	44.5
6,000		88.3	52.3	87.2	53.5
7,500		91.7	59.1	91.1	60.5
10,000		94.9	67.2	94.6	68.5
20,000		98.2	80.3	98.1	81.3
Over 20,000		100.0	100.0	100.0	100.0

GROSS CASH FARM INCOME PER FARM IN RELATION TO EXPENSES
United States, 1939, 1944, and 1946, and Illinois, 1946

THOUS. DOL. EXPENSES

1946-Enumerative Survey, unadjusted

1939*

1944°

UNITED STATES

10

5

0

15

Enumerative Survey, unadjusted

Farm accounts†

ILLINOIS-1946

10

5

0

0   5   10   15   20   25   30

THOUS. DOL. INCOME

*BASED ON DATA FROM "DIFFERENTIALS IN PRODUCTIVITY OF AGRICULTURAL WORKERS, BY SIZE OF ENTERPRISE AND BY REGIONS," BY LOUIS J. DUCOFF AND MARGARET JARMAN HAGOOD, U.S.D.A., BAE, WASH., D.C., AUGUST 1944. TABLE 5, PAGE 22.

°"SPECIAL REPORT. FARMS AND FARM CHARACTERISTICS BY SIZE OF FARM." U.S. CENSUS OF AGRICULTURE, 1945, WASH., D.C., MAY 1948. TABLE C. SELECTED EXPENSES REPORTED IN THE 1945 CENSUS OF AGRICULTURE INCLUDED CASH WAGES PAID, LIVESTOCK PURCHASES, FEED, FERTILIZER, LIME AND SEEDS. DATA WERE GIVEN BY SIZE OF FARM GROUPS. IN GENERAL, THERE IS A VERY CLOSE ASSOCIATION BETWEEN SIZE OF FARM AND VALUE OF PRODUCTS SOLD.

†BASED ON DATA FROM "INCOME SIZE DISTRIBUTIONS FOR ILLINOIS FARM-OPERATOR FAMILIES," BY REX F. DALY. UNIVERSITY OF ILLINOIS AND THE BUREAU OF AGRICULTURAL ECONOMICS. URBANA, ILL., 1949.

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FIGURE I

GROSS CASH FARM INCOME
Share Received by Varying Percentages of Farm Operator Families, 1944 and 1946

% OF INCOME

Census of
Agriculture,
1944

Unadjusted
Enumerative
Survey, 1946

Adjusted
Enumerative
Survey, 1946
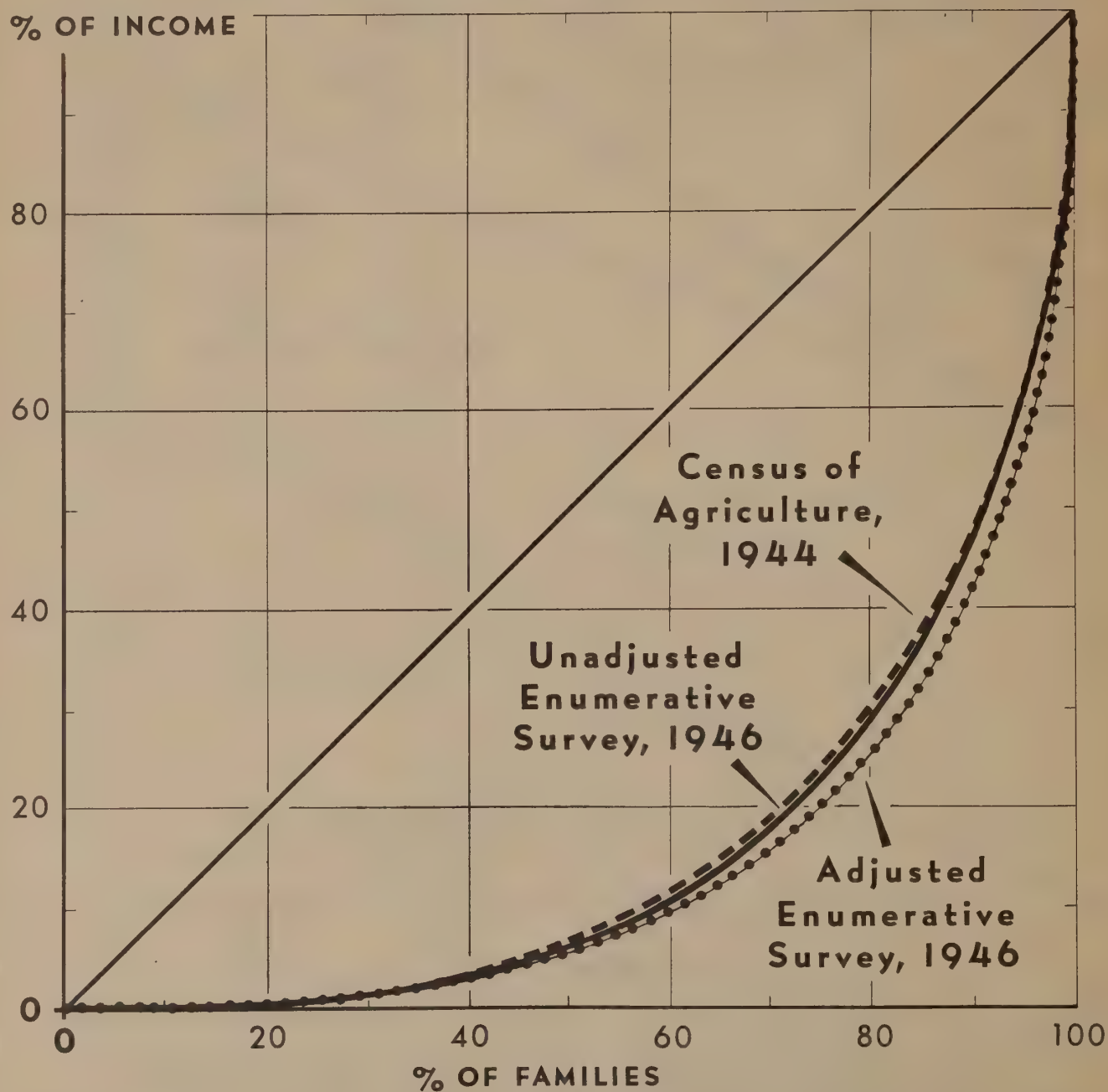
% OF FAMILIES

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FIGURE 2

NET CASH FARM INCOME

Share Received by Varying Percentages of Farm Operator Families, 1946*

% OF INCOME

Unadjusted

Adjusted

% OF FAMILIES

*DATA ARE FOR FAMILIES HAVING NET CASH FARM INCOME OF $1.00 OR MORE
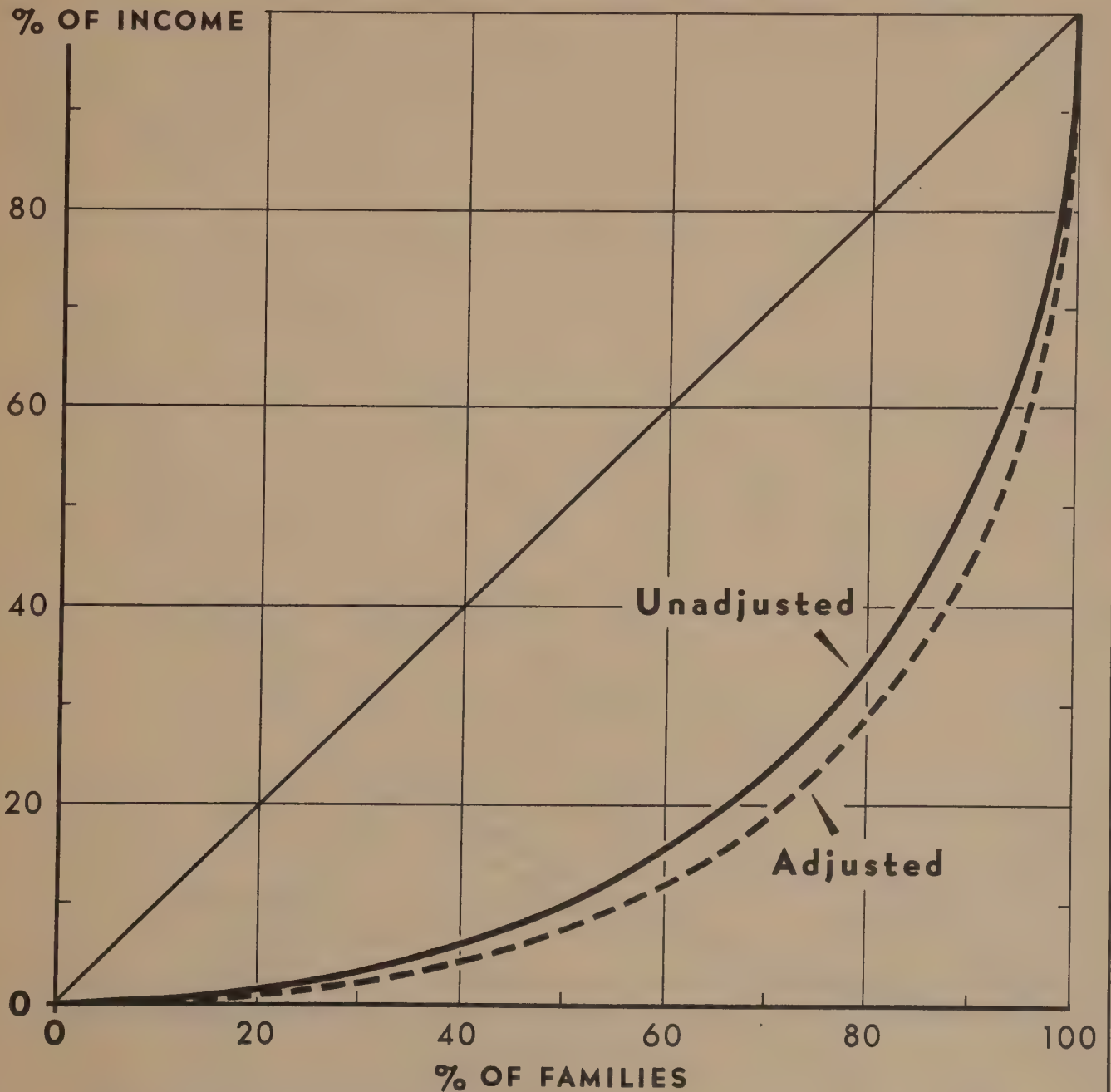
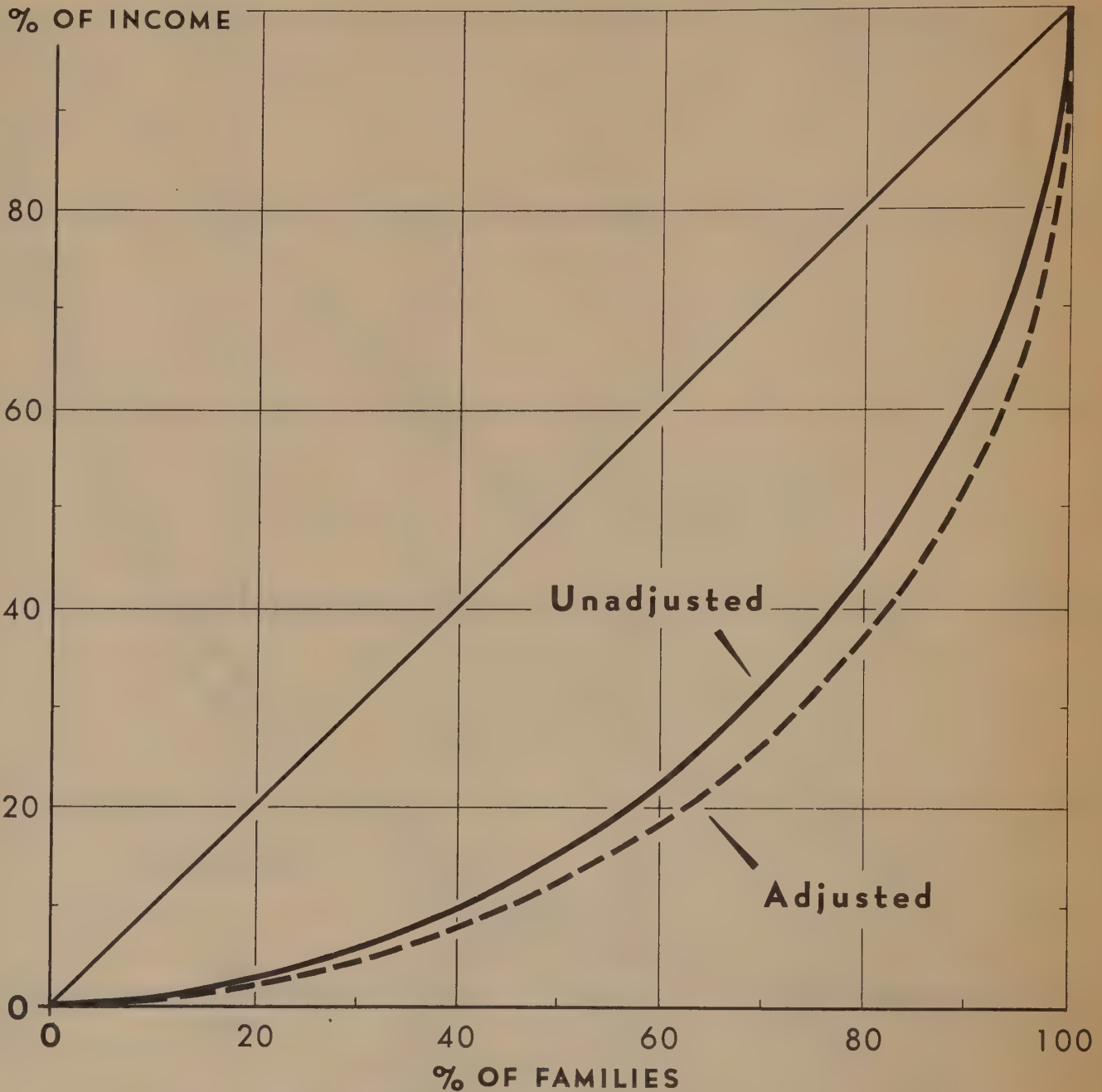U. S. DEPARTMENT OF AGRICULTURE   NEG. 47857-X BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 3

TOTAL NET CASH INCOME

Share Received by Varying Percentages of
Farm Operator Families, 1946*

% OF INCOME

Unadjusted

Adjusted

% OF FAMILIES

*DATA ARE FOR FAMILIES HAVING $1.00 OR MORE OF TOTAL NET CASH INCOME

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FIGURE 4

NET INCOME OF FARMERS

Share Received by Varying Percentages of Farm Operator Families, by Types of Net Income, 1946 *

% OF INCOME

Total net °

Total net cash △

Net cash from farming†
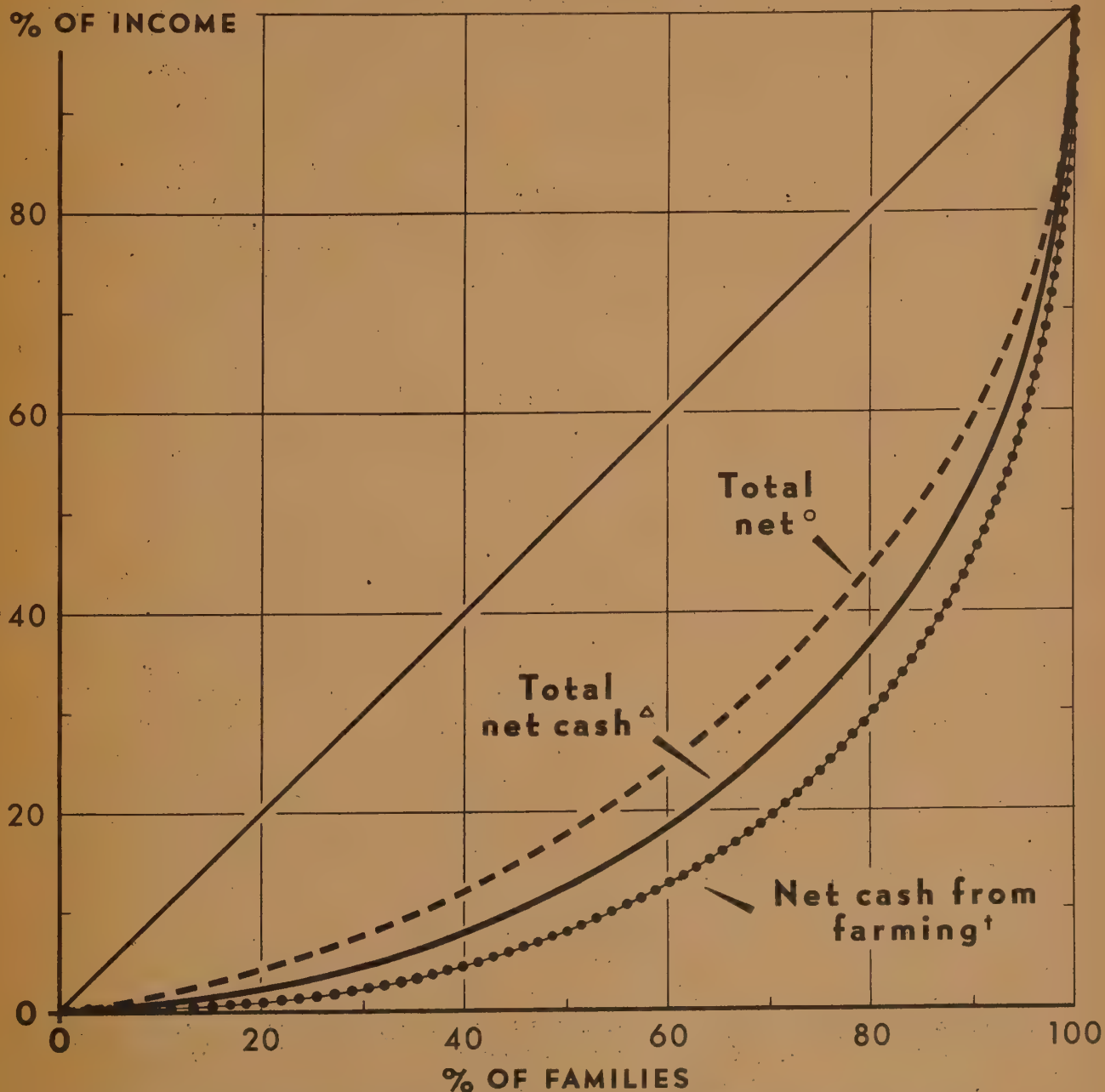
% OF FAMILIES

* DATA ARE FOR FAMILIES HAVING $1.00 OR MORE OF THE SPECIFIED TYPE OF INCOME
° TOTAL NET CASH INCOME PLUS NONMONEY INCOME (FARM FOOD VALUED ON RETAIL PRICE BASIS)
△ NET CASH INCOME FROM FARMING PLUS OFF-FARM INCOME
† GROSS CASH FARM INCOME MINUS CASH PRODUCTION EXPENSES

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FIGURE 5

APPENDIX

Reconciliation of Survey Income Data with BAE Official Estimates

Appendix table 11 indicates the nature and magnitude of the adjustments necessary to make the income aggregates for farm operators comparable in concept with the official BAE estimates. The BAE estimates of cash receipts from farm marketings and Government payments include, in addition to receipts by farm operators, receipts from marketings by landlords who received rent in the form of a share of the crop, and Government payments to landlords. In order to arrive at the gross cash income of farm operators, it is necessary to deduct both of these items. The BAE aggregate does not include income received from custom work. In computing net farm income, the Bureau of Agricultural Economics assumes that income from custom work is offset by a comparable expense, so that, for agriculture as a whole, they balance out. However, the survey indicates that some income from custom work is received by nonfarmers, and that consequently the net expense to farmers as a group is substantial. Moreover, offsets of this nature, when they exist, do not mean that the distribution of income is unaffected.

It is also necessary to adjust for intrastate sales of livestock. The BAE aggregate estimates do not include sales of livestock from one farmer to another within a State. The reason for the omission is similar to that for income from custom work and it does not apply to the distribution of income.

When these adjustments are made, the BAE aggregate estimate comparable in definition to the survey totals $24.6 billion for 1946. The estimate of aggregate income obtained from the survey was $17.8 billion, an understatement of 28 percent. It should be noted that the 1945 Census of Agriculture, which obtained the value of sales from all farms in 1944, underestimated income by approximately the same percentage when similar adjustments were made. This could be taken as some evidence that the sample used in the survey was fairly representative of the total farms in the United States despite the substantial rates of nonreporting and incomplete reporting. Some further evidence on this score is also yielded from a comparison of the distributions obtained from the survey and from the Census of Agriculture.

With respect to the expenses of farm production, the following adjustments were necessary to bring comparability in the BAE aggregate estimates and the survey: The landlord's share of the production expenses and the expenses pertaining to the farm dwelling were deducted (the BAE does not deduct expenses pertaining to the dwelling from total expenditures, but adds the imputed income from occupancy of the dwelling to the gross income). It was also necessary to make additions for intrastate purchases of livestock and for custom work. When these adjustments were made, production expenses of farm operators totaled $13.6 billion, compared with $12.4 billion reported in the survey, an understatement in the latter of about 9 percent.

With the greater discrepancy in gross receipts than in production expenses, only $5.4 billion of the net cash farm income of farm operators were represented in the survey, compared with the BAE estimate of $11.0 billion, an understatement of 51 percent.

Table 11.- Adjustment of B.A.E. estimates of gross receipts and production expenses of farm operators to agree with the Survey concepts, United States, 1946 1/

Item		Estimated value
		Million dollars
Gross receipts of farm operators		
Cash receipts and Government payments		25,636
Adjustment		
Addition		
Custom work	2/	297
Livestock adjustment for intrastate sales	2/	1,120
Deduction		
Share rent		2,304
Landlord's Government payments		131
Total gross receipts		24,618
Production expenses		
Current operating expense (except wages)		7,631
Cash wages		2,165
Maintenance and depreciation on buildings and machinery		2,215
Taxes		614
Interest on farm mortgage		216
Cash rent		351
Adjustment		
Addition		
Livestock adjustment for intrastate purchases	2/	1,120
Custom work	2/	487
Deduction		
Expenses for operator's dwelling		394
Landlord's share of expense		833
Total production expense		13,572
Net cash farm income		11,046

1/ Most of these data are published in The Farm Income Situation, August-September 1948. See footnote 13, p. 16.
2/ Determined from the Enumerative Survey.

Off-Farm Income of Farm Operator Families - 1946

The BAE Enumerative Survey obtained data on the off-farm income of farm operator families in more detail than was previously available. In developing the adjusted distributions, the total and average income from sources other than the farm operated have been shown. The details of this income, as obtained from the survey, are summarized in Appendix tables 12 to 14. These data are presented as they were obtained from the survey without adjustment. Thus, in comparing off-farm income at various levels of farm income, it should be kept in mind that the latter was generally understated in the survey, particularly at the higher farm income levels.

Table 12 shows the aggregate and average off-farm income from 11 major categories. Total off-farm income in 1946 of about $5.5 billion was approximately half as large as the aggregate net farm income estimated by the Bureau of Agricultural Economics. Almost two-thirds of the off-farm income was from civilian wages and salaries. Next in importance were net rents and royalties, which accounted for close to 9 percent of the total; net income from other business or profession, about 8 percent; and veterans' payments, 6 percent. The remaining groups individually accounted for less than 5 percent and all together about 14 percent of the total.

Table 13 shows the average amount for all forms of off-farm income by the 11 categories according to net cash farm income levels. A fairly heavy concentration of most types of off-farm income is noticeable at the negative and zero levels of farm income and again at the two highest farm income levels.

Table 14 shows the percentage of farms reporting income from each of the categories of off-farm income according to levels of net farm income. Off-farm income from at least one of the sources was reported by 63 percent of all farm operator families. About 82 percent of those reporting negative farm income had some source of off-farm income. For all major sources of off-farm income, participation was heavier at the lowest and highest farm income groups than for those income classes in between. Forty-four percent of the families received some income from civilian wages and salaries. Almost 12 percent received net rents and royalties and about 10 percent received veterans' payments. Participation in each of the remaining types of income was less than 10 percent.

For those families reporting some income from off-farm sources, the average was $1,496. Farm operator families reporting income from civilian wages and salaries averaged $1,350; net income from business or profession, $1,568; net income from operation of other farm, $1,704; armed forces pay, $539; net rents and royalties, $714; income from roomers and boarders, $326; interest and dividends, $281; dependency allotments, $421; veterans' payments, $553; security payments, $309; and other sources, $663.

Table 12.- Composition of off-farm income of farm operator
families, United States, 1946

Source	Off-farm income		
	Aggregate	Percentage of total	Average per farm operator family
	Million dollars	Percent	Dollars
Civilian wages and salaries	3,481	62.8	594
Net income from business or profession	459	8.3	78
Net income from operation of other farms	68	1.2	12
Armed forces pay	210	3.8	36
Net rents and royalties	488	8.8	83
Net income from roomers and boarders	55	1.0	9
Interest and dividends	87	1.5	15
Dependency allotments	76	1.4	13
Veterans' payments	338	6.1	58
Security payments	122	2.2	21
Other sources	159	2.9	27
Total	5,543	100.0	946

Definition of Off-Farm Income Categories

Civilian Wages and Salaries was defined as the total amount of money
wages or salary earned by a person for work done as a civilian employee
during 1946. Included in this category were "take-home" pay plus all de-
ductions and contributions taken out of the pay, commissions, tips, piece-
rate payments, cash bonuses, employee's share of business profits if re-
ceived in addition to wages or salary, and wages or salary received by a
farm laborer or manager working as an employee of a farm operator. Payment
"in kind" was excluded, even though received as payment for work performed.

Net Income from Business or Profession consisted of total money receipts less business expenses. Receipts included value of all goods and services rendered during 1946 whether or not payment had been received, plus value of any net inventory increase. This category also included royalties received as payment for services as inventor or author. Business expense deductions included costs of merchandise purchased, wages and salaries, rent, depreciation, decrease in value of inventory, etc.

Net Income from Operation of Another Farm was defined as gross receipts from the farm (value of farm products sold plus Government agricultural payments, income from custom work and increase in value of inventories), less farm production expenses and decrease in value of inventories.

Armed Forces Pay included all pay and allowances minus dependency allotments.

Net Rents and Royalties from Property were defined as the cash rent and royalties received less the costs incurred by the landlord in connection with the property. In the case of rent from a farm received in the form of a share of the farm products, net rent was calculated as the money received from the sale of the landlord's share less all expenses paid by the landlord. This category does not include rent from roomers in the household or royalties from patents and copyrights.

Net Income from Roomers and Boarders represented the gross receipts less all expenses such as cost of food served to boarders, laundry, a share of wages paid to servants and a share of the rent paid for the house. This income was included under this heading only in cases in which fewer than 10 rooms were rented or were for rent. When 10 or more rooms were rented, this income was included in "net income from business or profession."

Interest and Dividends included interest on bonds, deposits, etc., dividends from stocks or from consumer (not farmer) cooperatives and periodic or intermittent (not lump sums) payments from estates or trust funds.

Dependency Allotments included all dependency allotments received in 1946 whether or not the member of the armed forces was in the household at the time of the interview. Contributions from members of the armed forces were also included if that member was not in the household at that time.

Veterans' Payments included mustering-out pay, service readjustment allowances, educational benefits, rehabilitation allowances, veterans' unemployment benefits, bonuses, and disability and other pensions received by veterans or by relatives of such veterans.

Security Payments included social security payments, unemployment compensation or other nonveteran pensions and assistance.

Other Sources included contributions for support from persons not in the household, alimony, periodic payments from insurance policies and annuities and income from sources not covered elsewhere.

Table 13.- Average amount of off-farm cash income of farm operator families from specified sources, by net cash farm income classes, United States, 1946

Net cash farm income	Number of farms 1/	Civilian wages and salaries	Net income from business or profession	Receipts from operation of other farm	Armed forces pay	Net rents and royalties	Income from roomers and boaders
	Thousands	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Negative	1,877.6	1,150	189	6	43	108	20
0	45.2	1,823	0	0	0	78	0
$1 - $249	730.7	487	28	*	33	109	11
250 - 499	604.2	345	10	4	25	21	2
500 - 749	435.5	348	20	5	29	49	*
750 - 999	399.2	204	49	40	39	26	3
1,000 - 1,499	428.6	256	31	1	67	47	3
1,500 - 1,999	313.8	222	16	1	35	54	2
2,000 - 2,499	230.9	254	36	0	11	32	7
2,500 - 2,999	174.0	126	7	0	30	118	0
3,000 - 3,999	199.9	291	17	19	29	165	6
4,000 - 4,999	149.8	275	30	9	21	33	2
5,000 - 5,999	80.6	277	3	26	14	38	0
6,000 - 7,499	66.4	299	9	22	0	192	14
7,500 - 9,999	48.2	166	71	196	33	484	0
10,000 and over	74.5	446	140	221	40	196	0
Total or average	5,859.1	594	78	12	36	83	9

Net cash farm income	Interest and dividends	Dependency allotments	Veterans' payments	Social security payments, etc.	Other sources	Total off-farm income
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Negative	6	21	79	42	46	1,711
0	2	0	138	0	0	2,042
$1- $249	3	11	71	22	23	799
250- 499	7	.7	45	12	9	488
500- 749	57	17	48	11	8	591
750- 999	1	8	35	5	12	423
1,000- 1,499	30	17	42	8	31	535
1,500- 1,999	12	.0	36	8	5	391
2,000- 2,499	10	.*	35	10	19	414
2,500- 2,999	12	.0	22	2	16	331
3,000- 3,999	32	21	49	5	13	647
4,000- 4,999	11	9	46	9	10	455
5,000- 5,999	47	0	30	0	18	453
6,000- 7,499	7	0	2	0	38	584
7,500- 9,999	10	0	93	22	0	1,074
10,000 and over	128	0	49	*	161	1,381
Average	15	13	58	21	27	946

1/ This unadjusted distribution differs somewhat from that in table 4, because fewer schedules were used as the base.   *Less than 0.5.

Table 14.- Percentage of farm operator families reporting $1 or more of specified types of income, by net cash farm income classes, United States, 1946

Net cash farm income	Number of farms 1/	Civilian wages and salaries	Net income from business or profession	Receipts from operation of other farm	Armed forces pay	Net rents and royalties	Income from roomers and boarders
	Thousands	Percent	Percent	Percent	Percent	Percent	Percent
Negative	1,877.6	60.1	9.1	0.4	8.7	14.6	4.3
0	45.2	81.9	.0	.0	.0	3.3	.0
$1 - $249	730.7	56.8	3.6	.1	6.0	12.4	2.8
250 - 499	604.2	38.7	.5	.3	4.5	8.3	1.7
500 - 749	435.5	34.9	4.5	1.4	5.5	12.6	.8
750 - 999	399.2	28.3	3.7	1.6	6.5	8.5	3.0
1,000 - 1,499	428.6	34.1	3.0	.2	8.0	6.1	3.7
1,500 - 1,999	313.8	29.6	2.5	.4	6.6	13.6	1.0
2,000 - 2,499	230.9	30.5	2.2	.0	4.8	7.8	4.5
2,500 - 2,999	174.0	15.9	1.3	.0	3.7	9.3	.0
3,000 - 3,999	199.9	31.5	3.0	3.3	6.0	9.0	2.7
4,000 - 4,999	149.8	20.6	2.7	.9	6.2	8.7	2.2
5,000 - 5,999	80.6	30.0	2.6	.9	1.7	18.9	.0
6,000 - 7,499	66.4	21.7	5.3	1.1	.0	15.2	4.1
7,500 - 9,999	48.2	19.5	7.3	5.6	4.1	16.6	.0
10,000 and over	74.5	28.2	14.2	4.3	9.5	15.0	.0
Total or average	5,859.1	44.0	5.0	.7	6.6	11.7	2.9

Net cash farm income	Interest and dividends	Dependency allotments	Veterans' payments	Social security payments, etc.	Other sources	Total off-farm income
	Percent	Percent	Percent	Percent	Percent	Percent
Negative	5.5	4.9	14.8	13.1	5.5	82.2
0	1.8	.0	24.3	.0	.0	90.3
$1 - $249	1.8	2.4	11.3	7.7	4.7	76.7
250 - 499	3.3	3.3	7.6	4.4	3.6	50.5
500 - 749	4.6	3.8	8.5	4.3	1.4	54.0
750 - 999	1.7	2.7	8.0	2.3	3.0	47.3
1,000 - 1,499	6.7	2.6	8.9	3.9	3.4	51.4
1,500 - 1,999	5.4	.0	8.0	2.3	1.8	43.2
2,000 - 2,499	8.1	1.2	4.8	1.7	4.8	50.4
2,500 - 2,999	13.4	.0	2.1	.6	3.5	36.6
3,000 - 3,999	5.4	3.3	9.7	.7	4.7	48.4
4,000 - 4,999	6.7	2.5	7.1	2.2	3.1	40.0
5,000 - 5,999	15.0	.0	7.6	.0	7.6	51.2
6,000 - 7,499	5.1	.0	1.1	.0	3.2	41.3
7,500 - 9,999	9.5	.0	15.6	7.3	.0	44.4
10,000 and over	24.0	.0	5.0	1.1	3.5	63.2
Average	5.3	3.1	10.4	6.7	4.1	63.2

1/ This unadjusted distribution differs somewhat from that in table 4, because fewer schedules were used as the base.